

THE SERVICE SMALL-ARMS OF GERMANY AND FRANCE.

The following extracts from General Haizon's volume, "The School and the Army in Germany and France," has a present value, which is enhanced by the fact that the criticisms are those of an accomplished soldier from observations made under circumstances the most favorable for practical results. It should not be forgotten that Germany has been since the war considering various systems with the view of re-arming, while her stock of needle-guns is undergoing modifications. France is understood to be as yet too financially weak to essay the cost of an entirely new arm.

SMALL ARMS.

The appearance of the needle-gun is not much in its favor. It resembles the Belgian musket used so freely by us at the beginning of war, and for which we soon learned to feel great contempt. It is generally stocked with light colored wood, with brass rings, guards and butt pieces. The main features which give it value are the breech loading mechanism and the arrangement for firing the front end of the cartridge, so as to prevent the blowing out a portion of the powder before ignition.

The first needle gun was invented by an Englishman, in 1831; but no government could be induced to use it, and the principle was never made available till 1849, when Prussia adopted the present weapon. The barrel has four rifling grooves, has one twist to a length and a quarter, a calibre of fifty-eight and a half one-hundredth inches, and an adjusting breech sight for 200, 400, and 600, 800, and 1,000 yards. The metal of the gun seems too light for the bullet, and I have no doubt that the calibre will be reduced and the barrel thickened. The breech loading apparatus consists of a hollow cylinder or shell, working freely in another outer shell, to which the barrel is attached. By rotating the inner one out of a notch through about sixty degrees, by means of a knob two and a half inches long, it can be slid back like a door-bolt to admit the cartridge, and, if desired, taken out altogether. Within this inner shell is a solid cylinder of iron half an inch thick, which slides easily backward and forward. Attached to its front end is a needle, the size and half the length of a knitting needle. Coiled about this cylinder is a spiral spring, which is brought to the rear by a small knob. The spring, on being released by drawing the trigger, carries the bolt, or cylinder, and needle forward with sufficient force to pierce through the powder of the cartridge, striking the point against the fulminate situated in the rear of a little sabot that separates the bullet from the charge, the natural tension or recoil of the spring at once withdrawing the needle from the chamber. The cartridge has a paper case, and the ball is seven-eighths of an inch in length, of an elongated egg shape, the butt end toward the front. It is separated from the powder by a papier-mache sabot or cup, three-quarters of an inch in length, in which the bullet rests, and in the rear end of which is the little capsule, or hardened drop of fulminate. Against this is the powder, and the paper case at the rear end is drawn or puckered together, leaving in the center a small opening not large enough for the escape of the powder, but into which the needle plunges, and passes through the powder against the sabot in front. The knob, as with the chassepot, is used as a corporal's carry or support, to sustain the gun. The arm is capable of about the same

rapidity of firing as our own breech-loader and in the hands of a perfectly-trained soldier is a very effective weapon. As the needle is within the explosion, it soon corrodes, or burns out, and must be frequently replaced.

The close working upon each other of such extended surfaces of bright metal as we find in the rotating shell and sliding cylinder, making more care necessary to keep the piece in order than volunteers will give. In fact, out of a large number standing idle in officers' quarters and adjutants' offices that have been shown to me to explain their action, not one has proved serviceable, and only those taken direct from the hand of the soldier have I ever seen work freely. Such an arm at Shiloh during the rainy, dirty 9th and 10th of April, 1862, would have proved our ruin.

The chassepot is considered a very much superior arm, and resembles both the now altered Springfield and Enfield rifle. The barrel is three inches shorter than that of the needle gun, which is three feet in length and the breech loading apparatus is three inches shorter also—making a perceptible difference in the length of the piece. The chassepot has a calibre of only forty-two one hundredths inches, and weighs but eight and a half pounds, while the needle-gun weighs ten pounds. It is usually stocked in walnut and its whole mechanical make-up is superior to that of the needle gun. The breech sight can be adjusted to a range 400 yards greater than that of the needle-gun; and as the calibre is less, with a proportionally stronger barrel, a larger charge can be used, and greater range secured. This arm is in many respects similar to the needle-gun. It is fired by a needle pin, which strikes a percussion cap situated in the rear of the cartridge, and the force is communicated by an ordinary steel spring.

It has also an arrangement of hollow cylinders in the loading apparatus, with bright, closely-fitting surfaces which easily become unserviceable from rust. The cartridge has a paper case, and a light covering of linen about the bullet, to keep it firmly in place. The powder comes against the bullet, and back of the powder is a common percussion cap, with its open end to the rear which is covered by a gutta-percha flap, and held in place by two papier-mache washers fitting over it. The paper case is gathered down closely on the cap. When fired, the pin of the lock plunges through the flap of gutta-percha against the fulminate in the cap, the impact of the blow being taken up by the papier-mache washers resting against the powder. The bullet is a leaden bolt three-fourths of an inch long, with a plain face in the rear and a blunt point in front. The chassepot has a short ring of gutta-percha just in rear of the cylinder to which the needle is attached, that expands from the blast when the piece is fired, and completely shuts off the escape of gas. The Prussians were about to make the same improvement in their own arms when the war began.

The powder used by the French is of a dull brown color, very dirty to the touch, and without glaze; while the Prussian is jet black, with glazed grains, and admits of handling without soiling the fingers.

I am free to give my impression of these weapons, and I do not consider them comparable to our altered Springfield, Remington, Spencer, or a half-dozen other arms used in our country. It is very doubtful whether, in the hands of troops imperfectly disciplined, either the needle-gun or the chassepot could be kept in a serviceable condition.

The history of the Chassepot and Remington in France is thus given in Norton's forthcoming volume. The "ring" influences which imposed the former arm upon the nation have been already recounted in our pages.

Previously to the adoption of the chassepot by the French Government, in August 1860, initial trials of a satisfactory character having been made with the Remington system, a sufficient number of arms were ordered to be made in the United States, to admit of such exhaustive tests as could warrant a determination of the matter. The unavoidable delay, however, in the delivery of the arms, necessitated the decision of the Government in favor of the Chassepot, a conclusion probably likewise affected by the existing difficulty in the production of suitable metallic ammunition. A distinguished French officer of ordnance, in a little work criticizing the defaults of the national armament, published about the beginning of the Franco-Prussian War, observes of this circumstance: "This last arm known too late to the Emperor, tested at Barritz and at Compiègne, balanced for an instant the fortune of the Chassepot; but the latter backed by influential partisanship, was, after all the victor." In a foot note the writer then refers to the success of the Remington in the Vienna trials. A characteristic anecdote was first at this time current, for the truth of which I cannot vouch: "Very well prince," said the Emperor one day to M. de Metternich, "what is going on in Austria?" "Your Majesty," replied the minister, "we are trying the Remington!" "The Remington, pardon me, what is that." Inquiry having thus been suggested, it was discovered that this arm had been for some months at the artillery bureau, but that no one had told the Emperor.

So far as the general preference of the French Government has been manifested, with the single exception above noted, it has been strongly in favor of the Remington system. Its repeated endorsement by the ordnance officers, in view of a German armament, has been already stated. About the same time a committee of English, Belgian and French officers, proposing to raise a fund to equip the troops of the Papal States, consulted the French Government, which again strongly recommended the arm. To the application of a Chinese Commission, the same favorable report was made.

In 1868, the vice royalty of Egypt requested the French Minister of War to select a board of experts from his command and the Egyptian General in Chief who had been sent to Europe to determine upon an arm. This Commission was organized under the direction of Colonel Messier, an accomplished officer of infantry, and prosecuted its investigation of the merits of various inventions for more than six months, in the presence of the Egyptian envoy, General Ratib Pasha. The Remington was the arm finally selected from a large list of competitors, conspicuous among which were the chassepot, the Martini Henry, and the Peabody. The Viceroy there upon visiting Europe in person, efforts were made on the part of several parties interested in the competition, to have the trial resumed, but the Egyptian ruler concluded to defer to the action of the commission and the opinion of his son. On the 50th of June 1869, a contract was signed in England for 60,000 Remington rifles which were delivered during the succeeding twelve months. The construction of this complement was superintended in the United States by Colonel Mims. This distinguished officer, occupying a responsible position upon the Egyptian